

Performance and quality in higher education

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Introduction

Over the last three years, concerns about the performance and quality of higher education have risen to the top of the policy agenda. During the 1980s, these concepts were the subject of both scholarly research (see for example: Lawrence and Green, 1980; Lindsay, 1982; Astin, 1985) and policy-oriented study (for example: Linke et al, 1984 and Bourke, 1986), but it was only in the latter part of the decade that performance and quality started to receive sustained attention from policy makers.

One significant step in this process was the commissioning in 1989, of the Performance Indicators Research Group to:

develop and trial a broad range of quantitative indicators suitable for evaluating relative performance in higher education at both system and institutional levels and to report on their practicability, data requirements and appropriate conditions of use. (Linke, 1991: xi).

The Research Group built on earlier work in identifying potential indicators, in emphasising compatibility with existing data sources, and in focussing on collective rather than individual performance. The Report (Linke, 1991) advocated the use of performance indicators as an aid in determining how well institutions or departments have achieved their goals. The Report examined a range of indicators which were not claimed to be comprehensive but which were intended to provide a starting point for monitoring institutional performance in teaching and research within a context of relevant background factors. The Report argued that indicators could provide measures of efficiency and effectiveness but that they could not serve as the sole source of information on quality.

Concern with quality was given momentum by the Report of the Senate Standing Committee on Employment, Education and Training (1990). This Report posed questions about the quality of the education that students experience and the quality of graduates in terms of their specific professional competence and more generalised "higher level abilities". This Report differed from many of the earlier discussions by not focussing on precise definitions and measurement, but being concerned instead with the nature and value of the skills acquired.

The concern with quality intensified with an Invitational Workshop in 1991 (Anwyl, 1992), a Ministerial statement on *Quality and Diversity* (Baldwin, 1991) and most recently the publication of a set of Discussion Papers on *The Quality of Higher Education* by the Higher Education Council (1992a) followed by the Council's Draft and Final Advice papers (Higher Education Council, 1992b, 1992c).

This paper explores some of the linkages between the concepts of performance and quality, the concerns that are currently being expressed about them, and the dangers that must be avoided if they are to be usefully applied in improving higher education.

Performance and performance indicators

The notion of organisational "performance" is a rather elusive one. In everyday usage "performance" relates to a level of achievement in some activity. In relation to organisations, assessing "performance" involves asking what the organisation is accomplishing and how well it is carrying out its tasks. In other words, organisational performance embodies the notions of effectiveness and efficiency.

Delving into technical definitions of effectiveness and efficiency is

a complex process (for further discussion, see Lindsay, 1983a), and it is sufficient to note that the main focus of attention is on an organisation's activities and outcomes, and how resources are used to support them. Provided that the organisation concerned conforms to certain requirements, obtaining measures of effectiveness and efficiency can be quite straightforward.

There are three specific requirements to be met:

- the organisation must have inputs and outputs that can be identified, measured and priced,
- decision-makers must understand and be able to control the organisation's processes,
- decision-makers must be seeking to maximise outputs and minimise costs.

When these conditions apply, effectiveness may be regarded as a measure of the extent to which goals have been achieved, and efficiency, as a measure of the extent to which outputs have been achieved at least cost. While such definitions are standard in management theory, many types of organisations, including universities, do not fully conform to the three underlying requirements.

In higher education, multiple goals in relation to excellence, equity, access, and diversity, are pursued simultaneously. These goals are intrinsically ambiguous and contentious, and the outcomes produced are not readily susceptible to measurement or pricing. Nor do those who make decisions about goals, processes and resource use, have a good understanding of the "production" relationships and firm control over them (for further discussion see: Cohen and March, 1974; Lindsay, 1983b; de Weert, 1988).

These features underlie the difficulties of using performance indicators in higher education. A consideration of the Report of the Performance Indicators Group (Linke, 1991) can be used to illustrate the difficulties.

The Report recommends 23 indicators classified in three groups:

I. Indicators of Institutional Context (10)

Academic and general staff provision

- C1 Equivalent full time academic staff
- C3 Equivalent full time student load
- C4 Student/staff ratio

Student demand and background characteristics

- C5 Student preference ratio
- C7 Student acceptance ratio
- C8 Average student entry score

Financial resource distribution

- C9 Derivation of recurrent income
- C10 Distribution of recurrent expenditure
- C11 Academic activity cost per student
- C12 Total recurrent cost per student

II. Performance Indicators (11)

Teaching and learning

- P1 Perceived teaching quality
- P2 Student progress rate
- P3 Program completion rate
- P5 Research higher degree productivity rate

- P6 Graduate employment status
- Research and professional services
- P7a Number of research grants
- P7b Staff supported from external research grants
- P8 Value of research grants
- P9 Average publication rate
- P10 Productivity rate of other original works
- P11 Paid consultancy rate

III. Participation and Social Equity Indicators (2)

- S1 Academic staff gender ratio
- S2 Commencing student gender ratio

The Research Group saw its role as primarily technical and it made its major contribution in identifying weaknesses and inconsistencies in current measures and data sets, and in developing more adequate definitions and consistent and reliable data requirements. The Report claimed that the indicators proposed offer "a reasonable coverage of all the major aspects of teaching and research which are currently amenable to routine quantitative analysis" (Linke, 1991: xiv). The problem is that many important aspects are not amenable to measurement.

The ten Context Indicators represent the "background factors" against which performance in teaching and research are to be measured. The staff and financial indicators are clearly input measures, and while providing some useful improvements in the data available to decision-makers, they do not directly illuminate performance. The indicators of Student Demand are more difficult to classify. In one sense they are "inputs" to the teaching process, but in another sense they could be regarded as performance indicators since they reflect to some extent an institution's reputation and its performance in attracting good students.

In the Report eleven measures are designated as "performance" indicators. Of the five teaching indicators, three are improved versions of the standard notions of progress and completion rates. Another indicator gives initial employment status information, also in a fairly conventional form. The only "new" measure is an indicator of "Perceived Teaching Quality" which uses student questionnaire data on a valuable but limited range of teaching facets. However, the measure only provides a single perspective on the quality of teaching. The information relates solely to student perceptions of their experience. It is not, for example, complemented by data on adequacy of course content and organisation, or most importantly, student outcomes. As this indicator is the single measure in this area, there is a real danger of neglecting other important questions, such as whether the course content is up-to-date, accurate or relevant to the intended purpose, and whether the course produces graduates with the necessary professional competencies.

The research indicators are quite conventional. They involve the numbers and value of grants received, publication rates and the number of consultancies. Such measures are quite limited in their representation of the outcomes of research, but have the virtue of being easy to measure. Peer review, a well-established and effective method of assessing research performance, does not readily lend itself to simple quantitative measures. Thus, measures of the significance or impact of research have largely eluded researchers.

The Research Group also made little progress with the Participation and Equity Indicators which merely cover basic gender data. Simple and suitable definitions of some of the other categories of disadvantage, such as disability and socio-economic status, have not been easy to develop.

Quality in higher education

With the recent placing of "quality" alongside "performance" as a central concern, a further complex concept has been added to the debate. The term "quality" is used in many different ways. Often a particular approach is adopted in order to promote a particular political or educational position (Cave et al, 1988; de Weert, 1988;

Westerheijden, 1990). Some discussions of quality focus mainly on performance; that is, on identifying inputs, processes and outputs, and on obtaining quantitative measures of them. Others focus more on how to make sound judgements about those processes and outcomes including those which are largely intangible.

The everyday notion of assessing "quality" involves making a judgement of "worth". This process entails the application of external standards, either implicit or explicit, about what constitutes "poor", "good" or "excellent". While simple in concept, many works have been written on the notions of quality and the judging of excellence in higher education (for example: Astin, 1985; Lawrence and Green, 1980; Lindsay and Neumann, 1988).

The performance view of quality emphasises the measurement of simply-defined outputs and tends to neglect the role that judgement plays. This type of view has been prominent in Government thinking in recent years, and has found expression in the studies commissioned from Linke et al (1984), Bourke (1986) and the Commonwealth Tertiary Education Commission (1986).

In its first response to the most recent Government reference on quality, the Higher Education Council (HEC) (1991) gave most emphasis to quality as residing in outcomes, with outcomes being defined as the attributes graduates should have acquired. Higher education is expected to provide the community with trained graduates who have specific task skills, more general professional skills and generic higher-level skills such as knowing how to learn, solve problems, and think logically. This rather narrow outcomes view and the associated concern for definition and measurement, links the HEC approach to quality directly to the concepts which underpin the Linke Report on performance indicators. While outcomes provide one useful line of approach in assessing quality, there are alternative and complementary concepts including the "reputational", "value-added" and "content" approaches (Lindsay, 1992).

However, the Higher Education Council also identified several other notions of quality including the view that it is recognisable but not easily defined, and that its assessment is dependent on comparative judgements and varying values and perspectives.

In identifying these factors, the Council has acknowledged the extent to which different parties will make different assessments of quality as a result of their different perspectives and priorities, and the consequent emphasis that should be placed on the judgements that stakeholders make about the quality of higher education. In recognition of this variety, the Council invited and published a set of discussion papers prepared by the major stakeholders in higher education: the National Union of Students (NUS), the Federated Australian University Staff Association and Union of Australian College Academics (FAUSA/UACA), the Council of Australian Postgraduate Associations (CAPA) and the Australian Vice-Chancellors' Committee (AVCC).

These discussion papers (Higher Education Council, 1992a) all display a broader view of quality than the HEC itself, with each acknowledging the inevitable diversity in judgements about quality that arises from the different perspectives on goals and values of the various stakeholders. The student groups, NUS and CAPA, do not support a simple outcomes approach but advocate a focus on improving educational processes by attention to the many factors that influence student learning.

The staff unions do indicate support for an outcomes approach provided multiple and inter-related outcomes are accommodated and the approach is sensitive to contextual factors. On the other hand, the AVCC is largely concerned with the impact that declining resource levels have had on quality, with defending the existing quality management processes.

Approaches that treat quality as residing in outcomes and performance have the same conceptual and measurement problems as identified earlier in relation to performance indicators. The underlying model in each case is a systems or "production" model of inputs, processes and outputs. Despite its obvious utility and widespread use, a systems model of education is not really a simple one. The inputs and

outputs are abstractions not real entities and many alternative and sometimes competing conceptualisations are possible. For example, staff inputs may be represented by numbers, as in student-staff ratios, or by salaries, as in cost per student ratios. For some purposes, measures of staff qualifications and skills, or contact hours may be the appropriate ones. The different measures may yield different results in an analysis, and identifying how the measures actually relate to the underlying conceptualisation of the educational process may be important in selecting among the alternatives.

Despite the extensive range of views canvassed in its consultations, the Higher Education Council's (1992c) final advice to the Minister still lacks a clear focus and a comprehensive and coherent position. The general thrust of the HEC's original Discussion Paper has been refined and elaborated, but the various parts do not interlock to provide a consistent and systematic blueprint for a national quality assurance system.

Performance and quality

In the dominant views of performance and quality, the elements of the "production" process employed are those that can be most easily quantified. Hence, popular indicators include completion rates, student-staff ratios, and publications per staff member. By de-emphasising the exercise of judgement about what these indicators mean in educational terms, they are commonly represented as measures of quality.

However, while the recent advances in defining and implementing indicators do provide a better coverage of what is measurable, they are not sufficient to constitute a new and useful tool for higher education decision making. Quantitative indicators are simply not able to capture adequately the many dimensions of performance and quality.

In complex multi-dimensional systems, quantitative indicators are at best partial measures of institutional and system performance and quality. They focus attention on measurable and hence limited elements at the expense of those that are intangible but also arguably more significant. Unfortunately, the precise definition and quantification of indicators often gives them a quite unjustified importance in comparison with more global and judgemental assessments which may in fact capture performance and quality more adequately.

For example, although the Performance Indicators Report argues that its set of indicators is sufficiently comprehensive, diverse and reliable to be implemented by institutions, the Report gives little consideration to evaluating how well its indicators do in fact capture "performance".

The Report argues that performance indicators should "assist in determining how well a particular institution or department has achieved its respective goals" (Linke, 1991: xiii). However, it does not examine higher education's goals or how the proposed indicators specifically relate to them. Instead, the Report relies heavily on the assumption that higher education's goals are well known, clearly defined, and subject to sufficient agreement among the parties involved to be taken for granted in performance assessment.

There is a partial acknowledgement that this may not be the case in the suggestion that different institutions have different ideals and different performance expectations, and that therefore judgements of performance must take account of these factors instead of merely making a direct assessment on the basis of the relevant indicator values.

The Research Group also attempts to distance the notion of "quality" and acceptable ways of assessing it from quantifiable measures of performance. The Report argues that "provided the indicators are based on effective quality assurance procedures and attuned to important educational aims their impact should nevertheless be a constructive one..." (Linke, 1991: 131). However, this approach begs questions which are quite central to any performance assessment - how quality is assessed and assured, and how well can quantitative indicators be attuned to all, or even most, important educational aims.

Adopting any particular concept of an educational input or output inevitably involves an over-simplification. Simple quantitative meas-

ures cannot adequately represent educational performance or quality. A wide variety of measures and the overall judgements of interested parties are necessary to make adequate assessments. Judgements are necessary both in determining the significance of individual measures and in reaching global assessments from a diverse array of information both quantitative and non-quantitative.

At the heart of the broad approach advocated here is the belief that judgements, including those which involve a global weighing up of many factors, some unquantifiable, play an indispensable part in assessing educational performance and quality. Allied to this view is the concern that a pre-occupation with quantifying performance has distorted our conception of educational processes and outcomes at the expense of important but intangible dimensions which cannot be captured by simple indicators. Hence, performance indicators should be regarded as having only a restricted role in quality assessment in higher education.

Conclusion

In seeking to use performance indicators in higher education considerable care should be exercised. The available indicators are simply not of sufficient substance in relation to higher education's goals, processes and outcomes, to provide a significant improvement in our capacity to measure performance or quality. In higher education, many important characteristics are, unfortunately, simply not measurable.

While considerable progress has been made in recent years in developing more adequate definitions and consistent and reliable data requirements (see for example, Cave et al, 1988; Dochy et al, 1990; Linke, 1991), there have been no conceptual or empirical advances that significantly improve our representations of performance or quality.

The current debates about higher education's performance and quality show an unfortunate tendency to separate technical questions about definition and measurement from questions about the educational basis of what is being attempted, and from the more political questions such as how the results are to be used, and whose purposes are to be served.

As a consequence, some of the proposals in the Report on Performance Indicators and the Higher Education Council's discussions of, and final advice on, quality must be regarded as potentially damaging to higher education as they give undue prominence to measurable but limited aspects of higher education at the expense of more significant but intangible aspects. Their use could thus divert the attention of system and institutional decision makers from core concerns to the pursuit of good indicator scores.

If indicators are used with appropriate recognition of their limitations they can provide a useful starting point for further investigation. Measures which relate to outcomes, the efficient use of resources and where possible, the "value-added" by educational processes, can be of considerable use to decision makers. The danger arises from the spurious weight which is often given to quantitative measures (as for example with student-staff ratios), and their consequent inappropriate use in making decisions about allocations to and within institutions.

To counter this danger institutions should strengthen their institutional research capabilities, and while routinely collecting quantitative measures such as completion rates and research grant levels, they should also obtain stakeholder judgements about quality, including global assessments from institutional reputation ratings, graduate and employer satisfaction surveys, and peer review processes.

In addition, safeguards should be put in place to reduce the potential misuse of evaluative information. These should include clear statements about the limitations of the measures and judgements utilised, consultation about standards and procedures, careful selection and training of participants, and subjecting the processes and results themselves to appraisal.

In summary, current approaches to performance and quality tend to over-simplify higher education's role and the notion of outcomes; over-emphasise measurement at the expense of judgement; and make

insufficient allowance for diverse and conflicting stakeholder judgements. Only a broad approach to performance and quality can accommodate the diversity of goals and values that characterises higher education and its stakeholders, and in particular, the conflicting judgements that result.

The broadening of the national debate on quality that occurred through the involvement of the stakeholder groups provides the opportunity to advance our thinking on quality beyond a focus on performance indicators by giving adequate attention to non-quantifiable information. In participating in the Government's quality audit, the academic community should give close attention to ensuring that this opportunity is not lost. It is essential to ensure that measurement processes are not overvalued to the neglect of judgement processes, and a mechanism is developed for accommodating and making use of the widely varying judgements that result from quality assessments from different stakeholder perspectives. In preparing for the quality audits, institutions should design a practical approach to assessing the quality of educational programs that is consistent with the broad perspective on performance and quality that has been outlined in this paper. One such approach would be to assemble a set of quantitative indicators and judgements on particular program elements made from various perspectives, and then submit them for consideration by a stakeholder-based committee which can then make both specific and overall judgements about program quality in a systematic and coherent manner.

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